

SEQUENCE LISTING

<110> Warner-Lambert

<120> Method for the screening of alpha 2 delta-1 subunit binding ligands

<130> 179

<140>

<141>

<160> 21

<170> PatentIn Ver. 2.1

<210> 1

<211> 3842

<212> DNA

<213> Sus scrofa

<400> 1

```

ggggattgat cttcgatcgc gaagatggct gctggctgcc tgetggcctt gactctgaca 60
cttttccaat ctttctgat cggtcctca tgcaggagc cgttcccgtc ggccgtcact 120
atcaagtcac ggggtggataa aatgcaagaa gaccttgta ccctggcaaa aacagcaagt 180
ggagtcaatc agcttgctga tatttatgaa aaataccaag atttgatac tgtggaacca 240
aataatgcac gccagctggt ggaaattgca gccagggata ttgagaaact tctgagcaac 300
agatctaaag ccctgggtgcg cctagctttg gaagcagaga aggttcaagc agcccaccag 360
tgagagagag attttgcaag caatgaagtt gtctactaca atgcaaagga tgatctcgat 420
cctgaaaaaa atgacagtga gccaggcagc cagaggataa aacctgtttt tattgatgat 480
gctaattttg ggcgacagat atcttatcag catgcagcag tccatattcc caccgacatc 540
tatgagggct caacaattgt gttaaatgaa ctgaactgga caagtgcctt agatgaagtt 600
ttcaagaaaa atcgagagga agatccctca ttattgtggc aggtgtttgg cagtgccaca 660
ggcctggccc ggtattatcc agcttctcca tgggttgata acagtagaac tccaaacaag 720
attgaccttt atgatgtacg aaggagacca tggtagatcc aaggagctgc atctcctaaa 780
gatagcttta ttctggctga cgtgagtggg agtgtagtg gtttgacgct taaactgatc 840
cgaacatctg tctctgaaat gttggaaacc ctctcagatg acgattttgt gaatgtagct 900
tcattttaaca gcaatgccca ggatgtaagc tgttttcaac acctgttcca agcaaatgta 960
agaaataaga aagtgtgaa agatgcagtt aataatatca cagcaaaagg aatcacagat 1020
tacaagaagg gcttttagttt tgcttttgaa caactgctta attataacgt ttctagagcc 1080
aactgcaata agattatcat gttgttcacc gatggaggag aagagagagc tcaggagata 1140
tttgccaaat acaacaaaga caaaaaagta cgtgtattca cattttcagt tggccaacat 1200
aattatgaca gaggacctat tcagtggatg gcctgtgaaa ataaaggtta ttattatgaa 1260
attccttcca ttggagcaat cagaatcaat actcaggaat atttgatgt tctgggaaga 1320
ccaatggttt tagcaggaga caaagctaag caagtccagt ggacaaacgt gtacctggat 1380
gcactggaac tgggacttgt cattactgga actcttccgg tcttcaacat aaccggccaa 1440
aatgaaaata agacgaactt aaagaaccag ctgattcttg gtgtgatggg agttgatgta 1500
tctttggaag atattaaaag actgacacca cgttttacac tgtgccccaa tggtattac 1560
tttgcaattg atcctaattg ctatgtttta ttacatcaa atcttcagcc aaagaacccc 1620
aatctcagg agccagtaac cttggatttc cttgatgcag aattagagaa tgatattaaa 1680
gtggagatcc gaaataaaat gatagatgga gaaagtggag aaaaaacatt cagaactctg 1740
gttaaatctc aagatgagag atatattgac aaaggaaaca ggacatatat atggactcct 1800
gtcaatggca cagattacag tttggccttg gtattaccaa cctacagttt ttactatata 1860
aaagccaaaa tagaagagc aataactcag gccagatcaa aaaagggcaa aatgaaggat 1920
tcagaaacac tgaagcctga taattttgaa gaatctggct atacattcat agcaccaaga 1980
gactactgca atgaccttaa aatatcagat aataataccg aatttctttt aaactttaat 2040
gagttttatt atagaaaaac tccaaacaac ccgtcatgca acacagattt gattaataga 2100

```

gtcttgctgg	atgcgggctt	tacaaatgaa	cttgtccaaa	attactggag	taagcagaaa	2160
aacatcaagg	gagtgaaagc	acggtttggt	gtaactgatg	gagggattac	cagagtttat	2220
cccaaagagg	ctggagaaaa	ttggcaagaa	aaccagaaaa	catatgagga	cagcttctat	2280
aaaagaagtc	tagataacga	taactatggt	ttcactgctc	cctactttta	caaaagtggg	2340
cctgggtgct	atgaatcagg	catcatggta	agcaaagctg	tagaaatata	catccaagga	2400
aaacttctta	aacctgcagt	tgttgggaatt	aaaattgatg	taaattcctg	gatagagaat	2460
ttcaccaaaa	catcaatcag	ggatccgtgt	gctgggtccag	tttgtgattg	taaaagaaac	2520
agtgatgtaa	tggatttgtg	gattctagat	gatgggtggg	ttcttttgat	ggcaaatcat	2580
gatgattata	ctaaccagat	tgggaaggttt	tttggagaga	ttgacccaag	tttgatgaga	2640
cacctgggta	atatatcagt	ttatgctttt	aacaaatctt	acgattatca	gtcagtgtgt	2700
gagcctgggtg	ctgcacaaaa	acaaggagca	ggacatcgct	cagcatatgt	gccatcaata	2760
gcagacatct	tacacattgg	ctgggtgggccc	actgcagctg	catgggtctat	tctacagcag	2820
tttctcttga	gtttgacctt	tccacgactt	cttgaagcag	ttgagatgga	agatgatgac	2880
tttaccgcct	ctctgtcaaa	gcagagttgc	attactgaac	aaaccagta	tttctttgat	2940
aatgatagca	aatccttcag	tgggggtcttg	gactgtggta	actgttccag	aatctttcac	3000
gttgaaaaac	ttatgaacac	caacttaata	ttcataatgg	ttgagagcaa	agggacttgt	3060
ccttgtgaca	cacgattgct	catacaagct	gagcagactt	ctgacggtec	agatccttgt	3120
gatatgggta	agcaaccag	ataccgaaaa	gggcctgatg	tctgttttga	taacaatgcc	3180
ttggaggatt	ataccgactg	tgggtgggtgt	tctggattaa	atccctccct	gtggtccatc	3240
ttcggaatcc	agtgtgtttt	actttggcct	ttatctggca	gcagacacta	ccagttatga	3300
cccttctaaa	accaaactctg	catattaaac	ttcagaccct	gccagaatag	gagccctcaa	3360
ttgcattaaa	atagggtaaa	ctgcagaatc	agcagaactc	tagctggggcc	catcccatgg	3420
catcaatctc	agactcataa	ggcaccact	ggctgcatgt	caggggtgtca	gatcctgaaa	3480
cttgtgtgaa	tgctgcatca	tctatgtata	acatcagagc	aaaattctat	acctattcta	3540
ttggaaaatt	tgagaatttg	ttgttgcat	gttgggtgatt	acatgtaaaa	gggtcccca	3600
cacagttgtg	tatgaatcac	gcaaattgtc	ttgattttga	cttgctgcaa	tccttgctct	3660
tttaccaaga	aaatctctag	agggaaaaaa	aaagtctttt	ttttccttca	ctaattctgc	3720
tacaaattat	ttcctgcttg	gagtagttat	tattaaaaaa	tatatatata	gagagagaga	3780
gagagaatta	acattggtgt	aatctgtcaa	aatagaaata	atggcttatt	ttctacaaaa	3840
aa						3842

<210> 2
 <211> 3057
 <212> DNA
 <213> Sus scrofa

<400> 2						
atggctgctg	gctgcctgct	ggccttgact	ctgacacttt	tccaatcttt	gctgatcggt	60
ccctcatcgc	aggagccgtt	cccgctcgcc	gtcactatca	agtcattggg	ggataaaatg	120
caagaagacc	ttgtcaccct	ggcaaaaaa	gcaagtggag	tcaatcagct	tgctcgatatt	180
tatgaaaaat	accaagattt	gtatactgtg	gaaccaaata	atgcacgcca	gctggtggaa	240
attgcagcca	gggatattga	gaaacttctg	agcaacagat	ctaaagccct	ggtgcgcccta	300
gctttggaag	cagagaaggt	tcaagcagcc	caccagtggg	gagaggattt	tgcaagcaat	360
gaagttgtct	actacaatgc	aaaggatgat	ctcgatcctg	aaaaaatga	cagtgcagcca	420
ggcagccaga	ggataaaacc	tgtttttatt	gatgatgcta	atthttggcg	acagatatct	480
tatcagcatg	cagcagtcca	tattcccacc	gacatctatg	agggtcaca	aattgtgtta	540
aatgaactga	actggacaag	tgcttagat	gaagtthtca	agaaaaatcg	agaggaagat	600
ccctcattat	tgtggcaggt	gtttggcagt	gccacaggcc	tggtcccggt	ttatccagct	660
tctccatggg	ttgataacag	tagaactcca	aacaagattg	acctttatga	tgtacgaagg	720
agaccatggt	acatccaagg	agctgcatct	cctaaagata	tgcttattct	ggtcgacgtg	780
agtggaagtg	ttagtggttt	gacgcttaaa	ctgatccgaa	catctgtctc	tgaaatgttg	840
gaaaccctct	cagatgacga	ttttgtgaat	gtagcttcat	ttaacagcaa	tgcccaggat	900
gtaagctggt	ttcaacacct	tgtccaagca	aatgtaagaa	ataagaaagt	gctgaaagat	960
gcagttaata	atatcacagc	aaaaggaatc	acagattaca	agaagggctt	tagttttgct	1020
tttgaacaac	tgcttaatta	taacgtttct	agagccaact	gcaataagat	tatcatgttg	1080
ttcaccgatg	gaggagaaga	gagagctcag	gagatatttg	ccaaatacaa	caaagacaaa	1140

aaagtacgtg	tattcacatt	ttcagttggt	caacataatt	atgacagagg	acctattcag	1200
tggtatggcct	gtgaaaataa	aggttattat	tatgaaattc	cttccattgg	agcaatcaga	1260
atcaatactc	aggaatattt	ggatgttctg	ggaagaccaa	tggttttagc	aggagacaaa	1320
gctaagcaag	tccagtggac	aaacgtgtac	ctggatgcac	tggaactggg	acttgtcatt	1380
actggaactc	ttccggtctt	caacataacc	ggccaaaatg	aaaataagac	gaacttaaag	1440
aaccagctga	ttcttgggtg	gatgggagtt	gatgtatctt	tggaagatat	taaaagactg	1500
acaccacgtt	ttacactgtg	ccccaatggc	tattactttg	caattgatcc	taatggctat	1560
gtttttattac	atccaaatct	tcagccaaag	aaccccaaatt	ctcaggagcc	agtaaccttg	1620
gatttccttg	atgcagaatt	agagaatgat	attaaagtgg	agatccgaaa	taaaatgata	1680
gatggagaaa	gtggagaaaa	aacattcaga	actctgggtta	aatctcaaga	tgagagatat	1740
attgacaaag	gaaacaggac	atatacatgg	actcctgtca	atggcacaga	ttacagtttg	1800
gccttgggtat	taccaacctt	cagttttttac	tatatataaag	ccaaaataga	agagacaata	1860
actcaggcca	gatcaaaaaa	gggcaaaatg	aaggattcag	aaacactgaa	gcctgataat	1920
tttgaagaat	ctggctatac	attcatagca	ccaagagact	actgcaatga	ccttaaaaaa	1980
tcagataata	ataccgaatt	tcttttaaac	tttaatgagt	ttattgatag	aaaaactcca	2040
aacaaccgtg	catgcaaac	agatttgatt	aatgagtgct	tgctggatgc	gggctttaca	2100
aatgaacttg	tccaaaatta	ctggagtaag	cagaaaaaca	tcaagggagt	gaaagcacgg	2160
tttgttgtaa	ctgatggagg	gattaccaga	gtttatccca	aagaggctgg	agaaaatttg	2220
caagaaaacc	cagaaacata	tgaggacagc	ttctataaaa	gaagtctaga	taacgataac	2280
tatgttttca	ctgctcccta	ctttaacaaa	agtggacctg	gtgcttatga	atcaggcatc	2340
atggtaagca	aagctgtaga	aatatacatc	caaggaaaac	ttcttaaacc	tgcagttggt	2400
ggaattaaaa	ttgatgtaaa	ttcctggata	gagaatttca	ccaaaacatc	aatcagggat	2460
ccgtgtgctg	gtccagtttg	tgattgtaaa	agaaacagtg	atgtaatgga	ttgtgtgatt	2520
ctagatgatg	gtgggtttct	tttgatggca	aatcatgatg	attatactaa	ccagattgga	2580
agggtttttg	gagagattga	cccaagtttg	atgagacacc	tggttaatat	atcagtttat	2640
gcttttaaca	aatcttacga	ttatcagtca	gtgtgtgagc	ctgggtgctgc	acaaaaacaa	2700
ggagcaggac	atcgctcagc	atatgtgcc	tcaatagcag	acatcttaca	cattggctgg	2760
tgggccactg	cagctgcag	gtctattcta	cagcagtttc	tcttgagttt	gacctttcca	2820
cgacttcttg	aagcagttga	gatggaagat	gatgacttta	ccgcctctct	gtcaaagcag	2880
agttgcatta	ctgaacaaac	ccagtatttc	tttgataatg	atagcaaate	cttcagtggg	2940
gtcttggact	gtggttaactg	ttccagaatc	tttcacgttg	aaaaacttat	gaacaccaac	3000
ttaatattca	taatggttga	gagcaaaggg	acttgtcctt	gtgacacacg	attgtga	3057

<210> 3

<211> 3111

<212> DNA

<213> Sus scrofa

<400> 3

atggctgctg	gctgcctgct	ggccttgact	ctgacacttt	tccaatcttt	gctgatcggt	60
ccctcatcgc	aggagccgtt	cccgctggcc	gtcactatca	agtcattggg	ggataaaatg	120
caagaagacc	ttgtcaccct	ggcaaaaaca	gcaagtggag	tcaatcagct	tgatgatatt	180
tatgaaaaat	accaagattt	gtatactgtg	gaaccaaata	atgcacgcc	gctgggtgga	240
attgcagcca	gggatattga	gaaacttctg	agcaacagat	ctaaagccct	ggtgcgccta	300
gctttggaag	cagagaaggt	tcaagcagcc	caccagtgg	gagaggattt	tgcaagcaat	360
gaagttgtct	actacaatgc	aaaggatgat	ctcgatcctg	aaaaaatga	cagtgaacca	420
ggcagccaga	ggataaaacc	tggttttatt	gatgatgcta	atgttgggcg	acagatatct	480
tatcagcatg	cagcagttca	tattcccacc	gacatctatg	agggtcctaa	aattgtgtta	540
aatgaactga	actggacaag	tgctttagat	gaagttttca	agaaaaatcg	agaggaagat	600
ccctcattat	tgtggcaggt	ggttggcag	gccacaggcc	tgcccggtga	ttatccagct	660
tctccatggg	ttgataacag	tagaactcca	aacaagattg	acctttatga	tgtacgaagg	720
agaccatggt	acatccaagg	agctgcattc	cctaaagata	tgcttattct	ggtcgacgtg	780
agtggaagt	ttagtgtgtt	gacgttataa	ctgatccgaa	catctgtctc	tgaaatgttg	840
gaaaccctct	cagatgacga	ttttgtgaat	gtagcttcat	ttaacagcaa	tgcccaggat	900
gtaagctgtt	ttcaacacct	tgtccaagca	aatgtaagaa	ataagaaagt	gctgaaagat	960
gcagttaata	atatcacagc	aaaaggaatc	acagattaca	agaagggtct	tagttttgct	1020

tttgaacaac	tgcttaatta	taacgtttct	agagccaact	gcaataagat	tatcatgttg	1080
ttcaccgatg	gaggagaaga	gagagctcag	gagatatattg	ccaaatacaa	caaagacaaa	1140
aaagtacgtg	tattcacatt	ttcagttggt	caacataatt	atgacagagg	acctattcag	1200
tggtatggcct	gtgaaaataa	aggttattat	tatgaaattc	cttccattgg	agcaatcaga	1260
atcaatactc	aggaatattt	ggatgttctg	ggaagaccaa	tggttttagc	aggagacaaa	1320
gctaagcaag	tccagtggac	aaacgtgtac	ctggatgcac	tggaactggg	acttgtcatt	1380
actggaactc	ttccggtctt	caacataacc	ggccaaaatg	aaaataagac	gaacttaaag	1440
aaccagctga	ttcttggtgt	gatgggagtt	gatgtatctt	tggaagatat	taaaagactg	1500
acaccacgtt	ttacactgtg	ccccaatggc	tattactttg	caattgatcc	taatggctat	1560
gtttttattac	atccaaatct	tcagccaaag	aaccccaaat	ctcaggagcc	agtaaccttg	1620
gatttccttg	atgcagaatt	agagaatgat	attaaagtgg	agatccgaaa	taaaatgata	1680
gatggagaaa	gtggagaaaa	aacattcaga	actctgggta	aatctcaaga	tgagagatat	1740
attgacaaag	gaaacaggac	atatacatgg	actcctgtca	atggcacaga	ttacagtttg	1800
gccttgggtat	taccaaccta	cagttttttac	tatataaaaag	ccaaaataga	agagacaata	1860
actcaggcca	gatcaaaaaa	gggcaaaatg	aaggattcag	aaacactgaa	gcctgataat	1920
tttgaagaat	ctggctatac	attcatagca	ccaagagact	actgcaatga	ccttaaaata	1980
tcagataata	ataccgaatt	tctttttaaac	tttaattgagt	ttattgatag	aaaaactcca	2040
aacaaccctg	catgcaacac	agatttgatt	aatagagtct	tgctggatgc	gggctttaca	2100
aatgaacttg	tccaaaatta	ctggagtaag	cagaaaaaca	tcaagggagt	gaaagcacgg	2160
tttgttgtaa	ctgatggagg	gattaccaga	gtttatccca	aagaggctgg	agaaaattgg	2220
caagaaaacc	cagaaacata	tgaggacagc	ttctataaaa	gaagtctaga	taacgataac	2280
tatgttttca	ctgctcccta	ctttaacaaa	agtggacctg	gtgcttatga	atcaggcatc	2340
atggtaagca	aagctgtaga	aatatacatc	caaggaaaac	ttcttaaacc	tgcatgtgtt	2400
ggaattaaaa	ttgatgtaaa	ttcctggata	gagaatttca	ccaaaacatc	aatcagggat	2460
ccgtgtgctg	gtccagtttg	tgattgtaaa	agaaacagtg	atgtaatgga	ttgtgtgatt	2520
ctagatgatg	gtgggtttct	tttgatggca	aatcatgatg	attatactaa	ccagattgga	2580
agggtttttg	gagagattga	cccaagtttg	atgagacacc	tggttaatat	atcagtttat	2640
gctttttaaca	aatcttacga	ttatcagtca	gtgtgtgagc	ctgggtgctgc	acaaaaacaa	2700
ggagcaggac	atcgctcagc	atatgtgcc	tcaatagcag	acatcttaca	cattggctgg	2760
tgggccactg	cagctgcagc	gtctattcta	cagcagtttc	tcttgagttt	gacctttcca	2820
cgacttcttg	aagcagttga	gatggaagat	gatgacttta	ccgcctctct	gtcaaagcag	2880
agttgcatta	ctgaacaaac	ccagtatttc	tttgataatg	atagcaaatc	cttcagtggg	2940
gtcttggact	gtggttaactg	ttccagaatc	tttcacgttg	aaaaacttat	gaacaccaac	3000
ttaatattca	taatggttga	gagcaaaggg	acttgtcctt	gtgacacacg	attgctcata	3060
caagctgagc	agacttctga	cgggtccagat	ccttgtgata	tggttaagtg	a	3111

<210> 4

<211> 3192

<212> DNA

<213> Sus scrofa

<400> 4

atgggtgctg	gctgcctgct	ggccttgact	ctgacacttt	tccaatcttt	gctgatcggg	60
ccctcatcgc	aggagccggt	cccgtcggcc	gtcactatca	agtcatgggt	ggataaaatg	120
caagaagacc	ttgtcaccct	ggcaaaaaca	gcaagtggag	tcaatcagct	tgtcgatatt	180
tatgaaaaat	accaagattt	gtatactgtg	gaaccaaata	atgcacgcc	gctggtggaa	240
attgcagcca	gggatattga	gaaacttctg	agcaacagat	ctaaagccct	ggtgcgccta	300
gctttggaag	cagagaaggt	tcaagcagcc	caccagtgg	gagaggattt	tgcaagcaat	360
gaagtgtgtc	actacaatgc	aaaggatgat	ctcgatcctg	aaaaaatga	cagtgaagca	420
ggcagccaga	ggataaaacc	tggtttttat	gatgatgcta	atgttgggcg	acagatatct	480
tatcagcatg	cagcagtcga	tattcccacc	gacatctatg	agggctcaac	aatttgtgta	540
aatgaactga	actggacaag	tgctttagat	gaagttttca	agaaaaatcg	agaggaagat	600
ccctcattat	tgttggcagg	gtttggcagg	gccacaggcc	tggtcccgga	ttatccagct	660
tctccatggg	ttgataacag	tagaactcca	aacaagattg	acctttatga	tgtacgaagg	720
agaccatggt	acatccaagg	agctgcattc	cctaaagata	tgcttattct	ggtcgacgtg	780
agtggaaagt	ttagtgggtt	gacgcttaaa	ctgatccgaa	catctgtctc	tgaaatgttg	840

gaaaccctct cagatgacga ttttgtgaat gtagcttcat ttaacagcaa tgcccaggat 900
gtaagctgtt ttcaacacct tgtccaagca aatgtaagaa ataagaaagt gctgaaagat 960
gcagttaata atatcacagc aaaaggaatc acagattaca agaagggctt tagttttgct 1020
tttgaacaac tgcttaatta taacgtttct agagccaact gcaataagat tatcatgttg 1080
ttcaccgatg gaggagaaga gagagctcag gagatatttg ccaaatacaa caaagacaaa 1140
aaagtacgtg tattcacatt ttcagttggt caacataatt atgacagagg acctattcag 1200
tggtatggct gtgaaaataa aggttattat tatgaaattc cttccattgg agcaatcaga 1260
atcaatactc aggaatattt ggatgttctg ggaagaccaa tggtttttagc aggagacaaa 1320
gctaagcaag tccagtggtg aaacgtgtac ctggatgcac tggaaactggg acttgtcatt 1380
actggaactc ttccggtgctt caacataacc ggccaaaatg aaaataagac gaacttaaag 1440
aaccagctga ttcttgggtg gatgggagtt gatgtatctt tggaagatat taaaagactg 1500
acaccaggtt ttacactgtg cccaatggc tattactttg caattgatcc taatggctat 1560
gttttattac atccaaatct tcagccaaag aaccccaaat ctcaggagcc agtaaccttg 1620
gatttccttg atgcagaatt agagaatgat attaaagtgg agatccgaaa taaaatgata 1680
gatggagaaa gtggagaaaa aacattcaga actctggtta aatctcaaga tgagagatat 1740
attgacaaaag gaaacaggac atatacatgg actcctgtca atggcacaga ttacagtttg 1800
gccttggtat taccaacctt cagtttttac tatataaaag ccaaaataga agagacaata 1860
actcaggcca gatcaaaaaa gggcaaaatg aaggattcag aaacactgaa gcctgataat 1920
tttgaagaat ctggctatac attcatagca ccaagagact actgcaatga ccttaaaata 1980
tcagataata ataccgaatt tcttttaaac tttaatgagt ttattgatag aaaaactcca 2040
aacaacccgt catgcaacac agatttgatt aatagagtct tgctggatgc gggctttaca 2100
aatgaacttg tccaaaatta ctggagtaag cagaaaaaca tcaagggagt gaaagcacgg 2160
tttgttgtaa ctgatggagg gattaccaga gtttatccca aagaggctgg agaaaattgg 2220
caagaaaacc cagaaacata tgaggacagc ttctataaaa gaagtctaga taacgataac 2280
tatgttttca ctgctcccta ctttaacaaa agtggacctg gtgcttatga atcaggcatc 2340
atggtaagca aagctgtaga aatatacatc caaggaaaac ttcttaaacc tgcagttggt 2400
ggaattaaaa ttgatgtaa ttccctggata gagaatttca ccaaaacatc aatcagggat 2460
ccgtgtgctg gtccagtttg tgattgtaa agaaacagtg atgtaatgga ttgtgtgatt 2520
ctagatgatg gtgggtttct tttgatggca aatcatgatg attatactaa ccagattgga 2580
aggttttttg gagagattga cccaagtttg atgagacacc tggttaatat atcagtttat 2640
gcttttaaca aatcttacga ttatcagtca gtgtgtgagc ctggtgctgc accaaaacaa 2700
ggagcaggac atcgctcagc atatgtgcca tcaatagcag acatcttaca cattggctgg 2760
tgggccactg cagctgcagt gtctattcta cagcagtttc tcttgagttt gacctttcca 2820
cgacttcttg aagcagttga gatggaagat gatgacttta ccgcctctct gtcaaagcag 2880
agttgcatta ctgaacaaac ccagtatttc tttgataatg atagcaaata cttcagtggtg 2940
gtcttggtgact gtggtaactg ttccagaatc tttcacgttg aaaaacttat gaacaccaac 3000
ttaatattca taatggttga gagcaaaggg acttgtcctt gtgacacacg attgtcata 3060
caagctgagc agacttctga cgggccagat ccttgtgata tggttaagca acccagatac 3120
cgaaaagggc ctgatgtctg ttttgataac aatgccttgg aggattatac cgactgtggt 3180
ggtgtttctt ga 3192

<210> 5
<211> 1091
<212> PRT
<213> Sus scrofa

<400> 5
Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
1 5 10 15
Leu Leu Ile Gly Pro Ser Ser Gln Glu Pro Phe Pro Ser Ala Val Thr
20 25 30
Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85 90 95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130 135 140

Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
225 230 235 240

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
275 280 285

Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
290 295 300

Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
305 310 315 320

Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
325 330 335

Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
340 345 350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
355 360 365

Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
370 375 380

Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln
385 390 395 400

Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
405 410 415

Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
420 425 430

Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
450 455 460

Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys
465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp
530 535 540

Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile
545 550 555 560

Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln
565 570 575

Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro
580 585 590

Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser
595 600 605

Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg
610 615 620

Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn
625 630 635 640

Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn
645 650 655

Asp	Leu	Lys	Ile	Ser	Asp	Asn	Asn	Thr	Glu	Phe	Leu	Leu	Asn	Phe	Asn	
			660					665							670	
Glu	Phe	Ile	Asp	Arg	Lys	Thr	Pro	Asn	Asn	Pro	Ser	Cys	Asn	Thr	Asp	
		675					680					685				
Leu	Ile	Asn	Arg	Val	Leu	Leu	Asp	Ala	Gly	Phe	Thr	Asn	Glu	Leu	Val	
	690					695					700					
Gln	Asn	Tyr	Trp	Ser	Lys	Gln	Lys	Asn	Ile	Lys	Gly	Val	Lys	Ala	Arg	
705					710					715					720	
Phe	Val	Val	Thr	Asp	Gly	Gly	Ile	Thr	Arg	Val	Tyr	Pro	Lys	Glu	Ala	
			725					730						735		
Gly	Glu	Asn	Trp	Gln	Glu	Asn	Pro	Glu	Thr	Tyr	Glu	Asp	Ser	Phe	Tyr	
		740					745						750			
Lys	Arg	Ser	Leu	Asp	Asn	Asp	Asn	Tyr	Val	Phe	Thr	Ala	Pro	Tyr	Phe	
	755						760					765				
Asn	Lys	Ser	Gly	Pro	Gly	Ala	Tyr	Glu	Ser	Gly	Ile	Met	Val	Ser	Lys	
	770					775					780					
Ala	Val	Glu	Ile	Tyr	Ile	Gln	Gly	Lys	Leu	Leu	Lys	Pro	Ala	Val	Val	
785					790					795					800	
Gly	Ile	Lys	Ile	Asp	Val	Asn	Ser	Trp	Ile	Glu	Asn	Phe	Thr	Lys	Thr	
			805					810						815		
Ser	Ile	Arg	Asp	Pro	Cys	Ala	Gly	Pro	Val	Cys	Asp	Cys	Lys	Arg	Asn	
		820						825					830			
Ser	Asp	Val	Met	Asp	Cys	Val	Ile	Leu	Asp	Asp	Gly	Gly	Phe	Leu	Leu	
	835					840						845				
Met	Ala	Asn	His	Asp	Asp	Tyr	Thr	Asn	Gln	Ile	Gly	Arg	Phe	Phe	Gly	
	850					855					860					
Glu	Ile	Asp	Pro	Ser	Leu	Met	Arg	His	Leu	Val	Asn	Ile	Ser	Val	Tyr	
865					870					875					880	
Ala	Phe	Asn	Lys	Ser	Tyr	Asp	Tyr	Gln	Ser	Val	Cys	Glu	Pro	Gly	Ala	
			885					890						895		
Ala	Pro	Lys	Gln	Gly	Ala	Gly	His	Arg	Ser	Ala	Tyr	Val	Pro	Ser	Ile	
		900					905						910			
Ala	Asp	Ile	Leu	His	Ile	Gly	Trp	Trp	Ala	Thr	Ala	Ala	Ala	Trp	Ser	
	915					920						925				
Ile	Leu	Gln	Gln	Phe	Leu	Leu	Ser	Leu	Thr	Phe	Pro	Arg	Leu	Leu	Glu	
	930					935					940					
Ala	Val	Glu	Met	Glu	Asp	Asp	Asp	Phe	Thr	Ala	Ser	Leu	Ser	Lys	Gln	
945					950					955					960	

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
980 985 990

Val Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln
1010 1015 1020

Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val Lys Gln Pro Arg Tyr
1025 1030 1035 1040

Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Ala Leu Glu Asp Tyr
1045 1050 1055

Thr Asp Cys Gly Gly Val Ser Gly Leu Asn Pro Ser Leu Trp Ser Ile
1060 1065 1070

Phe Gly Ile Gln Cys Val Leu Leu Trp Leu Leu Ser Gly Ser Arg His
1075 1080 1085

Tyr Gln Leu
1090

<210> 6

<211> 1018

<212> PRT

<213> Sus scrofa

<400> 6

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Gln Glu Pro Phe Pro Ser Ala Val Thr
20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85 90 95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys

115

120

125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130 135 140

Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
225 230 235 240

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
275 280 285

Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
290 295 300

Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
305 310 315 320

Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
325 330 335

Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
340 345 350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
355 360 365

Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
370 375 380

Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln
385 390 395 400

Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
405 410 415

Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg

420

425

430

Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
450 455 460

Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys
465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp
530 535 540

Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile
545 550 555 560

Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln
565 570 575

Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro
580 585 590

Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser
595 600 605

Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg
610 615 620

Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn
625 630 635 640

Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn
645 650 655

Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn
660 665 670

Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Thr Asp
675 680 685

Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val
690 695 700

Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg
705 710 715 720

Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala

725

730

735

Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr
740 745 750

Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe
755 760 765

Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys
770 775 780

Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val
785 790 795 800

Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr
805 810 815

Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn
820 825 830

Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu
835 840 845

Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly
850 855 860

Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile
900 905 910

Ala Asp Ile Leu His Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
915 920 925

Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
930 935 940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
980 985 990

Val Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu
1010 1015

<210> 7
<211> 1036
<212> PRT
<213> Sus scrofa

<400> 7

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Gln Glu Pro Phe Pro Ser Ala Val Thr
20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85 90 95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130 135 140

Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
225 230 235 240

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
275 280 285

Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
290 295 300

Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
305 310 315 320

Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
325 330 335

Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
340 345 350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
355 360 365

Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
370 375 380

Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln
385 390 395 400

Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
405 410 415

Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
420 425 430

Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
450 455 460

Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys
465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp
530 535 540

Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile
545 550 555 560

Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln
565 570 575

Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro
580 585 590

Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser
595 600 605

Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg
610 615 620

Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn
625 630 635 640

Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn
645 650 655

Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn
660 665 670

Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Thr Asp
675 680 685

Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val
690 695 700

Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg
705 710 715 720

Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala
725 730 735

Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr
740 745 750

Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe
755 760 765

Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys
770 775 780

Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val
785 790 795 800

Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr
805 810 815

Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn
820 825 830

Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu
835 840 845

Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly
850 855 860

Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile
900 905 910

Ala Asp Ile Leu His Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
915 920 925

Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
930 935 940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
980 985 990

Val Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln
1010 1015 1020

Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val Lys
1025 1030 1035

<210> 8

<211> 1063

<212> PRT

<213> Sus scrofa

<400> 8

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Gln Glu Pro Phe Pro Ser Ala Val Thr
20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85 90 95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130 135 140

Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
225 230 235 240

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
275 280 285

Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
290 295 300

Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
305 310 315 320

Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
325 330 335

Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
340 345 350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
355 360 365

Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
370 375 380

Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln
385 390 395 400

Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
405 410 415

Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
420 425 430

Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
450 455 460

Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys
465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp
530 535 540

Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile
545 550 555 560

Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln
565 570 575

Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro
580 585 590

Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser
595 600 605

Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg
610 615 620

Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn
625 630 635 640

Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn
645 650 655

Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn
660 665 670

Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Thr Asp
675 680 685

Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val
690 695 700

Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg
705 710 715 720

Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala
725 730 735

Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr
740 745 750

Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe
755 760 765

Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys
770 775 780

Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val
785 790 795 800

Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr
805 810 815

Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn
820 825 830

Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu
835 840 845

Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly
850 855 860

Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile
900 905 910

Ala Asp Ile Leu His Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
915 920 925

Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
930 935 940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
980 985 990

Val Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln
1010 1015 1020

Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val Lys Gln Pro Arg Tyr
1025 1030 1035 1040

Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Ala Leu Glu Asp Tyr
1045 1050 1055

Thr Asp Cys Gly Gly Val Ser
1060

<210> 9

<211> 1069

<212> PRT

<213> Sus scrofa

<400> 9

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Gln Glu Pro Phe Pro Ser Ala Val Thr
20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85 90 95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130 135 140

Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe

195

200

205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
225 230 235 240

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
275 280 285

Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
290 295 300

Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
305 310 315 320

Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
325 330 335

Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
340 345 350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
355 360 365

Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
370 375 380

Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln
385 390 395 400

Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
405 410 415

Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
420 425 430

Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
450 455 460

Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys
465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr

500

505

510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp
530 535 540

Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile
545 550 555 560

Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln
565 570 575

Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro
580 585 590

Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser
595 600 605

Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg
610 615 620

Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn
625 630 635 640

Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn
645 650 655

Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn
660 665 670

Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Thr Asp
675 680 685

Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val
690 695 700

Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg
705 710 715 720

Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala
725 730 735

Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr
740 745 750

Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe
755 760 765

Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys
770 775 780

Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val
785 790 795 800

Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr

805

810

815

Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn
820 825 830

Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu
835 840 845

Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly
850 855 860

Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile
900 905 910

Ala Asp Ile Leu His Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
915 920 925

Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
930 935 940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
980 985 990

Val Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln
1010 1015 1020

Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val Lys Gln Pro Arg Tyr
1025 1030 1035 1040

Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Ala Leu Glu Asp Tyr
1045 1050 1055

Thr Asp Cys Gly Gly Val Ser His His His His His His
1060 1065

<210> 10

<211> 3055

<212> DNA

<213> Homo sapiens

<400> 10

atggtctgctg	gctgcctgct	ggccttgact	ctgacacttt	tccaatcttt	gctcatcggc	60
ccctcgtcgg	aggagccgtt	cccttcggcc	gtcactatca	aatcatgggt	ggataagatg	120
caagaagacc	ttgtcacact	ggcaaaaaca	gcaagtggag	tcaatcagct	tggtgatatt	180
tatgagaaat	atcaagattt	gtatactgtg	gaaccaaata	atgcacgcca	gctggtagaa	240
attgcagcca	gggatattga	gaaacttctg	agcaacagat	ctaaagccct	ggtgagcctg	300
gcattggaag	cggagaaagt	tcaagcagct	caccagtggg	gagaagattt	tgcaagcaat	360
gaagttgtct	actacaatgc	aaaggatgat	ctcgatcctg	agaaaaatga	cagtgaagcca	420
ggcagccaga	ggataaaaacc	tgttttcatt	gaagatgcta	attttggacg	acaaatatct	480
tatcagcacg	cagcagtgcca	tattcctact	gacatctatg	agggtctcaac	aattgtgtta	540
aatgaactca	actggacaag	tgcttagat	gaagttttca	aaaagaatcg	cgaggaagac	600
ccttcattat	tgtggcaggt	ttttggcagt	gccactggcc	tagctcgata	ttatccagct	660
tcaccatggg	ttgataatag	tagaactcca	aataagattg	acctttatga	tgtacgcaga	720
agaccatggt	acatccaagg	agctgcatct	cctaaagaca	tgcttattct	ggtggatgtg	780
agtggaaagt	ttagtggatt	gacacttaaa	ctgatccgaa	catctgtctc	cgaaatgtta	840
gaaaccctct	cagatgatga	tttcgtgaat	gtagcttcat	ttaacagcaa	tgctcaggat	900
gtaagctggt	ttcagcacct	tgccaagca	aatgtaagaa	ataaaaaagt	gttgaaagac	960
gcggtgaata	atatcacagc	caaaggaatt	acagattata	agaagggtct	tagttttgct	1020
tttgaacagc	tgcttaatta	taatgtttcc	agagcaaaact	gcaataagat	tattatgcta	1080
ttcacggatg	gaggagaaga	gagagccag	gagatattta	acaaatacaa	taaagataaa	1140
aaagtacgtg	tattcaggtt	ttcagttggt	caacacaatt	atgagagagg	acctattcag	1200
tggtatggcct	gtgaaaacaa	agggtattat	tatgaaattc	cttccattgg	tgcaataaga	1260
atcaatactc	aggaatattt	ggatgttttg	ggaagaccaa	tggttttagc	aggagacaaa	1320
gctaagcaag	tccaatggac	aaatgtgtac	ctggatgcat	tggaactggg	acttgtcatt	1380
actggaactc	ttccggtctt	caacataacc	ggccaatttg	aaaataagac	aaacttaag	1440
aaccagctga	ttcttggtgt	gatgggagta	gatgtgtctt	tggaagatat	taaaagactg	1500
acaccacgtt	ttacactgtg	ccccaatggg	tattactttg	caatcgatcc	taatggttat	1560
gtttttattac	atccaaatct	tcagccaaag	aaccccaaact	ctcaggagcc	agtaacattg	1620
gatttccttg	atgcagagtt	agagaatgat	attaaagtgg	agattcgaaa	taagatgatt	1680
gatggggaaa	gtggagaaaa	aacattcaga	actctgggta	aatctcaaga	tgagagatat	1740
attgacaaag	gaaacaggac	atacacatgg	acacctgtca	atggcacaga	ttacagtttg	1800
gccttggtat	taccaaccta	cagttttttac	tatataaaaag	ccaaactaga	agagacaata	1860
actcaggcca	gatcaaaaaa	gggcaaaatg	aaggattcgg	aaaccctgaa	gccagataat	1920
tttgaagaat	ctggctatac	attcatagca	ccaagagatt	actgcaatga	cctgaaaata	1980
tcggataata	acactgaatt	tcttttaaat	ttcaacogagt	ttattgatag	aaaaactcca	2040
aacaacccat	catgtaacgc	ggattttgatt	aatagagtct	tgcttgatgc	aggctttaca	2100
aatgaacttg	tccaaaatta	ctggagtaag	cagaaaaata	tcaagggtg	gaaagcacga	2160
tttgttgtga	ctgatggtgg	gattaccaga	gtttatccca	aagaggctgg	agaaaattgg	2220
caagaaaacc	cagagacata	tgaggacagc	ttctataaaa	ggagcctaga	taatgataac	2280
tatgttttca	ctgctcccta	ctttaacaaa	agtggacctg	gtgcctatga	atcgggcatt	2340
atggtaagca	aagctgtaga	aatatatatt	caagggaac	ttcttaaacc	tcagttgttt	2400
ggaattaaaa	ttgatgtaaa	ttcctggata	gagaatttca	ccaaaacctc	aatcagagat	2460
ccgtgtgctg	gtccagtttg	tgactgcaaa	agaaacagtg	acgtaatgga	ttgtgtgatt	2520
ctggatgatg	gtgggtttct	tctgatggca	aatcatgatg	attatactaa	tcagattgga	2580
agattttttg	gagagattga	tcccagcttg	atgagacacc	tggttaatat	atcagtttat	2640
gcttttaaca	aatcttatga	ttatcagtc	gtatgtgagc	ccggtgctgc	acaaaaacaa	2700
ggagcaggac	atcgctcagc	atatgtgcc	tcagtagcag	acatattaca	aattggctgg	2760
tgggccactg	ctgctgcctg	gtctattcta	cagcagtttc	tcttgagttt	gacctttcca	2820
cgactccttg	aggcagttga	gatggaggat	gatgacttca	cggcctccct	gtccaagcag	2880
agctgcatta	ctgaacaaac	ccagtatttc	ttcgataacg	acagtaaate	attcagtggt	2940
gtattagact	gtggaaactg	ttccagaatc	tttcatggag	aaaagcttat	gaacaccaac	3000
ttaatattca	taatggttga	gagcaaaggg	acatgtccat	gtgacacacg	actgc	3055

<210> 11

<211> 3109

<212> DNA

<213> Homo sapiens

<400> 11

atggctgctg	gctgcctgct	ggccttgact	ctgacacttt	tccaatcttt	gctcatcggc	60
ccctcgctcg	aggagccgtt	cccttcggcc	gtcactatca	aatcatgggt	ggataagatg	120
caagaagacc	ttgtcacact	ggcaaaaaca	gcaagtggag	tcaatcagct	tgttgatatt	180
tatgagaaat	atcaagattt	gtatactgtg	gaaccaaata	atgcacgcca	gctggtagaa	240
attgcagcca	gggatattga	gaaacttctg	agcaacagat	ctaaagccct	ggtgagcctg	300
gcattggaag	cggagaaagt	tcaagcagct	caccagtggg	gagaagattt	tgcaagcaat	360
gaagttgtct	actacaatgc	aaaggatgat	ctcgatcctg	agaaaaatga	cagtgcagcca	420
ggcagccaga	ggataaaacc	tgttttcatt	gaagatgcta	atthttggacg	acaaatatct	480
tatcagcacg	cagcagtgca	tattcctact	gacatctatg	agggctcaac	aattgtgtta	540
aatgaactca	actggacaag	tgcccttagat	gaagttttca	aaaagaatcg	cgaggaagac	600
ccttcattat	tgtggcaggt	ttttggcagt	gccactggcc	tagctcgata	ttatccagct	660
tcaccatggg	ttgataatag	tagaactcca	aataagattg	acctttatga	tgtacgcaga	720
agaccatggg	acatccaagg	agctgcatct	cctaaagaca	tgcttattct	ggtggatgtg	780
agtggaagtg	ttagtggatt	gacacttaaa	ctgatccgaa	catctgtctc	cgaaatgtta	840
gaaaccctct	cagatgatga	tttcgtgaat	gtagcttcat	ttaacagcaa	tgctcaggat	900
gtaagctggt	ttcagcacct	tgtccaagca	aatgtaagaa	ataaaaaagt	gttgaaagac	960
gcggtgaata	atatcacagc	caaaggaatt	acagattata	agaagggctt	tagttttgct	1020
tttgaacagc	tgcttaatta	taatgtttcc	agagcaaact	gcaataagat	tattatgcta	1080
ttcacggatg	gaggagaaga	gagagcccag	gagatattta	acaaatacaa	taaagataaa	1140
aaagtacgtg	tattcaggtt	ttcagttggg	caacacaatt	atgagagagg	acctattcag	1200
tggtatggct	gtgaaaacaa	aggttattat	tatgaaattc	cttccattgg	tgcaataaga	1260
atcaatactc	aggaatattt	ggatgttttg	ggaagaccaa	tggttttagc	aggagacaaa	1320
gctaagcaag	tccaatggac	aaatgtgtac	ctggatgcat	tggaactggg	acttgtcatt	1380
actggaactc	ttccggtctt	caacataacc	ggccaatttg	aaaataagac	aaacttaag	1440
aaccagctga	ttcttgggtg	gatgggagta	gatgtgtctt	tggaagatat	taaaagactg	1500
acaccacgtt	ttacactgtg	ccccaatggg	tattactttg	caatcgatcc	taatggttat	1560
gtttttattac	atccaaatct	tcagccaaag	aaccccaaat	ctcaggagcc	agtaacattg	1620
gatttccttg	atgcagagtt	agagaatgat	attaaagtgg	agattcgaaa	taagatgatt	1680
gatggggaaa	gtggagaaaa	aacattcaga	actctgggta	aatctcaaga	tgagagatat	1740
attgacaaag	gaaacaggac	atacacatgg	acacctgtca	atggcacaga	ttacagtttg	1800
gccttggtat	taccaacctc	cagtttttac	tatataaaaag	ccaaactaga	agagacaata	1860
actcaggcca	gatcaaaaaa	gggcaaaatg	aaggattcgg	aaaccctgaa	gccagataat	1920
tttgaagaat	ctggctatac	attcatagca	ccaagagatt	actgcaatga	cctgaaaata	1980
tcggataata	acactgaatt	tctttttaaat	ttcaacgagt	ttattgatag	aaaaactcca	2040
aacaacccat	catgtaacgc	ggattttgatt	aatagagtct	tgcttgatgc	aggctttaca	2100
aatgaacttg	tccaaaatta	ctggagtaag	cagaaaaata	tcaagggagt	gaaagcacga	2160
tttgttgtga	ctgatgggtg	gattaccaga	gtttatccca	aagaggctgg	agaaaattgg	2220
caagaaaacc	cagagacata	tgaggacagc	ttctataaaa	ggagcctaga	taatgataac	2280
tatgttttca	ctgctcccta	ctttaacaaa	agtggacctg	gtgcctatga	atcgggcatt	2340
atggtaagca	aagctgtaga	aatatatatt	caagggaac	ttcttaaacc	tgcagttggt	2400
ggaattaaaa	ttgatgtaaa	ttcctggata	gagaatttca	ccaaaacctc	aatcagagat	2460
ccgtgtgctg	gtccagtttg	tgactgcaaa	agaaacagtg	acgtaattga	ttgtgtgatt	2520
ctggatgatg	gtgggtttct	tctgatggca	aatcatgatg	attataactaa	tcagattgga	2580
agattttttg	gagagattga	tcccagcttg	atgagacacc	tggttaatat	atcagtttat	2640
gctttttaaca	aatcttatga	ttatcagtca	gtatgtgagc	ccggtgctgc	acaaaaacaa	2700
ggagcaggac	atcgctcagc	atatgtgcca	tcagtagcag	acatattaca	aattggctgg	2760
tgggccactg	ctgctgcctg	gtctattcta	cagcagtttc	tcttgagttt	gacctttcca	2820
cgactccttg	aggcagttga	gatggaggat	gatgacttca	cggcctccct	gtccaagcag	2880
agctgcatta	ctgaacaaac	ccagtatttc	ttcgataacg	acagtaaate	attcagtggt	2940
gtattagact	gtggaaactg	ttccagaatc	tttcatggag	aaaagcttat	gaacaccaac	3000
ttaatattca	taatggttga	gagcaaaggg	acatgtccat	gtgacacacg	actgctcata	3060
caagcggagc	agacttctga	cgggtccaaat	ccttgtgaca	tggttaagc		3109

<210> 12
<211> 3190
<212> DNA
<213> Homo sapiens

<400> 12

atggctgctg	gctgcctgct	ggccttgact	ctgacacttt	tccaatcttt	gctcatcggc	60
ccctcgctcg	aggagccgtt	cccttcggcc	gtcactatca	aatcatgggt	ggataagatg	120
caagaagacc	ttgtcacact	ggcaaaaaca	gcaagtggag	tcaatcagct	tggtgatatt	180
tatgagaaat	atcaagattt	gtatactgtg	gaaccaaata	atgcacgcca	gctggtagaa	240
attgcagcca	gggatattga	gaaacttctg	agcaacagat	ctaaagccct	ggtgagcctg	300
gcattggaag	cggagaaagt	tcaagcagct	caccagtggg	gagaagattt	tgcaagcaat	360
gaagttgtct	actacaatgc	aaaggatgat	ctcgatcctg	agaaaaatga	cagtgaagcca	420
ggcagccaga	ggataaaacc	tgttttcatt	gaagatgcta	attttggacg	acaaatatct	480
tatcagcacg	cagcagtgcca	tattcctact	gacatctatg	agggtcaac	aattgtgtta	540
aatgaactca	actggacaag	tgcttagat	gaagttttca	aaaagaatcg	cgaggaagac	600
ccttcattat	tgtggcaggt	ttttggcagt	gccactggcc	tagctcgata	ttatccagct	660
tcaccatggg	ttgataatag	tagaactcca	aataagattg	acctttatga	tgtacgcaga	720
agaccatggt	acatccaagg	agctgcatct	cctaaagaca	tgcttattct	ggtggatgtg	780
agtggaagtg	ttagtggatt	gacacttaaa	ctgatccgaa	catctgtctc	cgaaatgtta	840
gaaaccctct	cagatgatga	tttcgtgaat	gtagcttcat	ttaacagcaa	tgctcaggat	900
gtaagctggt	ttcagcacct	tgtccaagca	aatgtaagaa	ataaaaaagt	gttgaaagac	960
gcggtgaata	atatcacagc	caaaggaatt	acagattata	agaagggtct	tagttttgct	1020
tttgaacagc	tgcttaatta	taatgtttcc	agagcaaact	gcaataagat	tattatgcta	1080
ttcacggatg	gaggagaaga	gagagccag	gagatattta	acaaatacaa	taaagataaa	1140
aaagtacgtg	tattcaggtt	ttcagttggt	caacacaatt	atgagagagg	acctattcag	1200
tggtatggct	gtgaaaacaa	aggttattat	tatgaaattc	cttccattgg	tgcaataaga	1260
atcaatactc	aggaatattt	ggatgttttg	ggaagaccaa	tggttttagc	aggagacaaa	1320
gctaagcaag	tccaatggac	aaatgtgtac	ctggatgcat	tggaactggg	acttgtcatt	1380
actggaactc	ttccggtctt	caacataacc	ggccaatttg	aaaataagac	aaacttaaag	1440
aaccagctga	ttcttggtgt	gatgggagta	gatgtgtctt	tggaagatat	taaaagactg	1500
acaccacgtt	ttacactgtg	ccccaatggg	tattactttg	caatcgatcc	taatggttat	1560
gtttttattac	atccaaatct	tcagccaaag	aaccccaaat	ctcaggagcc	agtaacattg	1620
gatttccttg	atgcagagtt	agagaatgat	attaaagtgg	agattcgaaa	taagatgatt	1680
gatggggaaa	gtggagaaaa	aacattcaga	actctgggta	aatctcaaga	tgagagatat	1740
attgacaaag	gaaacaggac	atacacatgg	acacctgtca	atggcacaga	ttacagtttg	1800
gccttggtat	taccaaccta	cagtttttac	tatataaaaag	ccaaactaga	agagacaata	1860
actcaggcca	gatcaaaaaa	gggcaaaatg	aaggattcgg	aaaccctgaa	gccagataat	1920
tttgaagaat	ctggctatac	attcatagca	ccaagagatt	actgcaatga	cctgaaaata	1980
tcggataata	acactgaatt	tcttttaaat	ttcaacgagt	ttattgatag	aaaaactcca	2040
aacaacccat	catgtaacgc	ggatttgatt	aatagagtct	tgcttgatgc	aggctttaca	2100
aatgaacttg	tccaaaatta	ctggagtaag	cagaaaaata	tcaagggagt	gaaagcacga	2160
tttgttgatg	ctgatggtgg	gattaccaga	gtttatccca	aagaggctgg	agaaaattgg	2220
caagaaaacc	cagagacata	tgaggacagc	ttctataaaa	ggagcctaga	taatgataac	2280
tatgttttca	ctgctcccta	ctttaacaaa	agtggacctg	gtgcctatga	atcgggcatt	2340
atggtaagca	aagctgtaga	aatatatatt	caagggaac	ttcttaaacc	tgcaagttgt	2400
ggaattaaaa	ttgatgtaaa	ttcctggata	gagaatttca	ccaaaacctc	aatcagagat	2460
ccgtgtgctg	gtccagtttg	tgactgcaaa	agaaacagtg	acgtaatgga	ttgtgtgatt	2520
ctggatgatg	gtgggtttct	tctgatggca	aatcatgatg	attatactaa	tcagattgga	2580
agattttttg	gagagattga	tcccagcttg	atgagacacc	tggttaatat	atcagtttat	2640
gcttttaaca	aatcttatga	ttatcagtca	gtatgtgagc	ccggtgctgc	accaaaca	2700
ggagcaggac	atcgctcagc	atatgtgcca	tcagtagcag	acatattaca	aattggctgg	2760
tgggccactg	ctgctgcctg	gtctattcta	cagcagtttc	tcttgagttt	gacctttcca	2820
cgactccttg	aggcagttga	gatggaggat	gatgacttca	cggcctccct	gtccaagcag	2880
agctgcatta	ctgaacaaac	ccagtatttc	ttcgataacg	acagtaaate	attcagtggt	2940
gtattagact	gtggaactg	ttccagaatc	tttcatggag	aaaagcttat	gaacaccaac	3000
ttaatattca	taatggttga	gagcaaaggg	acatgtccat	gtgacacacg	actgctcata	3060

caagcggagc agacttctga cggtcctcaat ccttggtgaca tggttaagca acctagatac 3120
 cgaaaagggc ctgatgtctg ctttgataac aatgtcttgg aggattatac tgactgtggt 3180
 ggtgtttctg 3190

<210> 13
 <211> 1018
 <212> PRT
 <213> Homo sapiens

<400> 13
 Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
 1 5 10 15
 Leu Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Ala Val Thr
 20 25 30
 Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
 35 40 45
 Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
 50 55 60
 Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
 65 70 75 80
 Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
 85 90 95
 Leu Val Ser Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
 100 105 110
 Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
 115 120 125
 Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
 130 135 140
 Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser
 145 150 155 160
 Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
 165 170 175
 Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
 180 185 190
 Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
 195 200 205
 Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
 210 215 220
 Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
 225 230 235 240
 Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile

245										250					255				
Leu	Val	Asp	Val	Ser	Gly	Ser	Val	Ser	Gly	Leu	Thr	Leu	Lys	Leu	Ile				
	260							265					270						
Arg	Thr	Ser	Val	Ser	Glu	Met	Leu	Glu	Thr	Leu	Ser	Asp	Asp	Asp	Phe				
	275						280					285							
Val	Asn	Val	Ala	Ser	Phe	Asn	Ser	Asn	Ala	Gln	Asp	Val	Ser	Cys	Phe				
	290					295				300									
Gln	His	Leu	Val	Gln	Ala	Asn	Val	Arg	Asn	Lys	Lys	Val	Leu	Lys	Asp				
305				310					315						320				
Ala	Val	Asn	Asn	Ile	Thr	Ala	Lys	Gly	Ile	Thr	Asp	Tyr	Lys	Lys	Gly				
			325					330						335					
Phe	Ser	Phe	Ala	Phe	Glu	Gln	Leu	Leu	Asn	Tyr	Asn	Val	Ser	Arg	Ala				
		340						345					350						
Asn	Cys	Asn	Lys	Ile	Ile	Met	Leu	Phe	Thr	Asp	Gly	Gly	Glu	Glu	Arg				
	355						360					365							
Ala	Gln	Glu	Ile	Phe	Asn	Lys	Tyr	Asn	Lys	Asp	Lys	Lys	Val	Arg	Val				
	370					375				380									
Phe	Arg	Phe	Ser	Val	Gly	Gln	His	Asn	Tyr	Glu	Arg	Gly	Pro	Ile	Gln				
385					390					395					400				
Trp	Met	Ala	Cys	Glu	Asn	Lys	Gly	Tyr	Tyr	Tyr	Glu	Ile	Pro	Ser	Ile				
			405					410						415					
Gly	Ala	Ile	Arg	Ile	Asn	Thr	Gln	Glu	Tyr	Leu	Asp	Val	Leu	Gly	Arg				
		420					425					430							
Pro	Met	Val	Leu	Ala	Gly	Asp	Lys	Ala	Lys	Gln	Val	Gln	Trp	Thr	Asn				
	435					440						445							
Val	Tyr	Leu	Asp	Ala	Leu	Glu	Leu	Gly	Leu	Val	Ile	Thr	Gly	Thr	Leu				
	450					455					460								
Pro	Val	Phe	Asn	Ile	Thr	Gly	Gln	Phe	Glu	Asn	Lys	Thr	Asn	Leu	Lys				
465				470					475						480				
Asn	Gln	Leu	Ile	Leu	Gly	Val	Met	Gly	Val	Asp	Val	Ser	Leu	Glu	Asp				
			485					490						495					
Ile	Lys	Arg	Leu	Thr	Pro	Arg	Phe	Thr	Leu	Cys	Pro	Asn	Gly	Tyr	Tyr				
		500					505						510						
Phe	Ala	Ile	Asp	Pro	Asn	Gly	Tyr	Val	Leu	Leu	His	Pro	Asn	Leu	Gln				
	515					520					525								
Pro	Lys	Asn	Pro	Lys	Ser	Gln	Glu	Pro	Val	Thr	Leu	Asp	Phe	Leu	Asp				
	530					535					540								
Ala	Glu	Leu	Glu	Asn	Asp	Ile	Lys	Val	Glu	Ile	Arg	Asn	Lys	Met	Ile				

545	550	555	560
Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln	565	570	575
Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro	580	585	590
Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser	595	600	605
Phe Tyr Tyr Ile Lys Ala Lys Leu Glu Glu Thr Ile Thr Gln Ala Arg	610	615	620
Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn	625	630	635
Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn	645	650	655
Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn	660	665	670
Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Ala Asp	675	680	685
Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val	690	695	700
Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg	705	710	715
Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala	725	730	735
Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr	740	745	750
Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe	755	760	765
Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys	770	775	780
Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val	785	790	795
Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr	805	810	815
Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn	820	825	830
Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu	835	840	845
Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly			

850

855

860

Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Val
900 905 910

Ala Asp Ile Leu Gln Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
915 920 925

Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
930 935 940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
980 985 990

Gly Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu
1010 1015

<210> 14

<211> 1036

<212> PRT

<213> Homo sapiens

<400> 14

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Ala Val Thr
20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85 90 95

Leu Val Ser Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130 135 140

Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
225 230 235 240

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
275 280 285

Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
290 295 300

Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
305 310 315 320

Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
325 330 335

Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
340 345 350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
355 360 365

Ala Gln Glu Ile Phe Asn Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
370 375 380

Phe Arg Phe Ser Val Gly Gln His Asn Tyr Glu Arg Gly Pro Ile Gln
385 390 395 400

Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
405 410 415

Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
420 425 430

Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
450 455 460

Pro Val Phe Asn Ile Thr Gly Gln Phe Glu Asn Lys Thr Asn Leu Lys
465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp
530 535 540

Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile
545 550 555 560

Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln
565 570 575

Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro
580 585 590

Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser
595 600 605

Phe Tyr Tyr Ile Lys Ala Lys Leu Glu Glu Thr Ile Thr Gln Ala Arg
610 615 620

Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn
625 630 635 640

Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn
645 650 655

Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn
660 665 670

Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Ala Asp
675 680 685

Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val
690 695 700

Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg
705 710 715 720

Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala
725 730 735

Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr
740 745 750

Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe
755 760 765

Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys
770 775 780

Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val
785 790 795 800

Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr
805 810 815

Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn
820 825 830

Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu
835 840 845

Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly
850 855 860

Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Val
900 905 910

Ala Asp Ile Leu Gln Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
915 920 925

Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
930 935 940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
980 985 990

Gly Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln
1010 1015 1020

Thr Ser Asp Gly Pro Asn Pro Cys Asp Met Val Lys
1025 1030 1035

<210> 15
<211> 1063
<212> PRT
<213> Homo sapiens

<400> 15
Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Ala Val Thr
20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85 90 95

Leu Val Ser Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130 135 140

Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
225 230 235 240

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
275 280 285

Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
290 295 300

Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
305 310 315 320

Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
325 330 335

Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
340 345 350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
355 360 365

Ala Gln Glu Ile Phe Asn Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
370 375 380

Phe Arg Phe Ser Val Gly Gln His Asn Tyr Glu Arg Gly Pro Ile Gln
385 390 395 400

Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
405 410 415

Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
420 425 430

Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
450 455 460

Pro Val Phe Asn Ile Thr Gly Gln Phe Glu Asn Lys Thr Asn Leu Lys
465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
515 520 525

Pro	Lys	Asn	Pro	Lys	Ser	Gln	Glu	Pro	Val	Thr	Leu	Asp	Phe	Leu	Asp		
530						535					540						
Ala	Glu	Leu	Glu	Asn	Asp	Ile	Lys	Val	Glu	Ile	Arg	Asn	Lys	Met	Ile		
545					550					555					560		
Asp	Gly	Glu	Ser	Gly	Glu	Lys	Thr	Phe	Arg	Thr	Leu	Val	Lys	Ser	Gln		
				565					570					575			
Asp	Glu	Arg	Tyr	Ile	Asp	Lys	Gly	Asn	Arg	Thr	Tyr	Thr	Trp	Thr	Pro		
			580					585					590				
Val	Asn	Gly	Thr	Asp	Tyr	Ser	Leu	Ala	Leu	Val	Leu	Pro	Thr	Tyr	Ser		
		595					600					605					
Phe	Tyr	Tyr	Ile	Lys	Ala	Lys	Leu	Glu	Glu	Thr	Ile	Thr	Gln	Ala	Arg		
610						615					620						
Ser	Lys	Lys	Gly	Lys	Met	Lys	Asp	Ser	Glu	Thr	Leu	Lys	Pro	Asp	Asn		
625					630					635					640		
Phe	Glu	Glu	Ser	Gly	Tyr	Thr	Phe	Ile	Ala	Pro	Arg	Asp	Tyr	Cys	Asn		
				645					650					655			
Asp	Leu	Lys	Ile	Ser	Asp	Asn	Asn	Thr	Glu	Phe	Leu	Leu	Asn	Phe	Asn		
			660					665					670				
Glu	Phe	Ile	Asp	Arg	Lys	Thr	Pro	Asn	Asn	Pro	Ser	Cys	Asn	Ala	Asp		
		675					680					685					
Leu	Ile	Asn	Arg	Val	Leu	Leu	Asp	Ala	Gly	Phe	Thr	Asn	Glu	Leu	Val		
	690					695					700						
Gln	Asn	Tyr	Trp	Ser	Lys	Gln	Lys	Asn	Ile	Lys	Gly	Val	Lys	Ala	Arg		
705					710					715					720		
Phe	Val	Val	Thr	Asp	Gly	Gly	Ile	Thr	Arg	Val	Tyr	Pro	Lys	Glu	Ala		
				725					730					735			
Gly	Glu	Asn	Trp	Gln	Glu	Asn	Pro	Glu	Thr	Tyr	Glu	Asp	Ser	Phe	Tyr		
		740						745					750				
Lys	Arg	Ser	Leu	Asp	Asn	Asp	Asn	Tyr	Val	Phe	Thr	Ala	Pro	Tyr	Phe		
		755					760					765					
Asn	Lys	Ser	Gly	Pro	Gly	Ala	Tyr	Glu	Ser	Gly	Ile	Met	Val	Ser	Lys		
	770					775					780						
Ala	Val	Glu	Ile	Tyr	Ile	Gln	Gly	Lys	Leu	Leu	Lys	Pro	Ala	Val	Val		
785					790					795					800		
Gly	Ile	Lys	Ile	Asp	Val	Asn	Ser	Trp	Ile	Glu	Asn	Phe	Thr	Lys	Thr		
			805						810					815			
Ser	Ile	Arg	Asp	Pro	Cys	Ala	Gly	Pro	Val	Cys	Asp	Cys	Lys	Arg	Asn		
			820					825					830				

Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu
835 840 845

Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly
850 855 860

Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Val
900 905 910

Ala Asp Ile Leu Gln Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
915 920 925

Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
930 935 940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
980 985 990

Gly Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln
1010 1015 1020

Thr Ser Asp Gly Pro Asn Pro Cys Asp Met Val Lys Gln Pro Arg Tyr
1025 1030 1035 1040

Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Val Leu Glu Asp Tyr
1045 1050 1055

Thr Asp Cys Gly Gly Val Ser
1060

<210> 16

<211> 1091

<212> PRT

<213> Homo sapiens

<400> 16

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Phe Gln Ser
1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Ala Val Thr

20

25

30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85 90 95

Leu Val Ser Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130 135 140

Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
225 230 235 240

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
275 280 285

Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
290 295 300

Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
305 310 315 320

Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly

325

330

335

Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
340 345 350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
355 360 365

Ala Gln Glu Ile Phe Asn Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
370 375 380

Phe Arg Phe Ser Val Gly Gln His Asn Tyr Glu Arg Gly Pro Ile Gln
385 390 395 400

Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
405 410 415

Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
420 425 430

Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
450 455 460

Pro Val Phe Asn Ile Thr Gly Gln Phe Glu Asn Lys Thr Asn Leu Lys
465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp
530 535 540

Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile
545 550 555 560

Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln
565 570 575

Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro
580 585 590

Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser
595 600 605

Phe Tyr Tyr Ile Lys Ala Lys Leu Glu Glu Thr Ile Thr Gln Ala Arg
610 615 620

Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn

625		630		635		640
Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn						
	645			650		655
Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn						
	660		665			670
Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Ala Asp						
	675		680			685
Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val						
	690		695			700
Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg						
705		710		715		720
Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala						
	725		730			735
Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr						
	740		745			750
Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe						
	755		760			765
Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys						
	770		775			780
Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val						
785		790		795		800
Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr						
	805		810			815
Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn						
	820		825			830
Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu						
	835		840			845
Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly						
	850		855			860
Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr						
865		870		875		880
Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala						
	885		890			895
Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Val						
	900		905			910
Ala Asp Ile Leu Gln Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser						
	915		920			925
Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu						

930

935

940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
980 985 990

Gly Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln
1010 1015 1020

Thr Ser Asp Gly Pro Asn Pro Cys Asp Met Val Lys Gln Pro Arg Tyr
1025 1030 1035 1040

Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Val Leu Glu Asp Tyr
1045 1050 1055

Thr Asp Cys Gly Gly Val Ser Gly Leu Asn Pro Ser Leu Trp Tyr Ile
1060 1065 1070

Ile Gly Ile Gln Phe Leu Leu Leu Trp Leu Val Ser Gly Ser Thr His
1075 1080 1085

Arg Leu Leu
1090

<210> 17

<211> 3600

<212> DNA

<213> Homo sapiens

<400> 17

gcggggggagg gggcattgat cttcgatcgc gaagatggct gctggctgcc tgctggcctt 60
gactctgaca cttttccaat ctttgctcat cggccctcg tcggaggagc cgttcccttc 120
ggccgtcact atcaaatcat ggggtggataa gatgcaagaa gaccttgtca cactggcaaa 180
aacagcaagt ggagtcaatc agcttggtga tatttatgag aaatatcaag atttgtatac 240
tgtggaacca aataatgcac gccagctggg agaaattgca gccagggata ttgagaaact 300
tctgagcaac agatctaaag ccctgggtgag cctggcattg gaagcggaga aagttcaagc 360
agctcaccag tggagagaag attttgcaag caatgaagtt gtctactaca atgcaaagga 420
tgatctcgat cctgagaaaa atgacagtga gccaggcagc cagaggataa aacctgtttt 480
cattgaagat gctaattttg gacgacaaat atcttatcag cagcagcag tccatatttc 540
tactgaatc tatgagggtc caacaattgt gttaaagaa ctcaactgga caagtgcctt 600
agatgaagtt ttcaaaaaga atcgcgagga agacccttca ttattgtggc aggttttttg 660
cagtgccact ggcctagctc gatattatcc agcttcacca tgggttgata atagtagaac 720
tccaaataag attgaccttt atgatgtacg cagaagacca tgggtacatcc aaggagctgc 780
atctcctaaa gacatgctta ttctgggtgga tgtgagtgga agtggttagtg gattgacact 840
taaactgatc cgaacatctg tctccgaaat gttagaaacc ctctcagatg atgatttcgt 900
gaatgtagct tcatttaaca gcaatgtcga ggatgtaagc tgtttttcagc acctgttcca 960
agcaaagtga agaaataaaa aagtgttgaa agacgcgggt aataatatca cagccaaagg 1020

aattacagat	tataagaagg	gcttttagttt	tgcttttgaa	cagctgctta	attataatgt	1080
ttccagagca	aactgcaata	agattattat	gctattcacg	gatggaggag	aagagagagc	1140
ccaggagata	tttaacaaat	acaataaaga	taaaaaagta	cgtgtattca	ggttttcagt	1200
tggtcaacac	aattatgaga	gaggacctat	tcagtggatg	gcctgtgaaa	acaaagggtta	1260
ttattatgaa	attccttcca	ttggtgcaat	aagaatcaat	actcaggaat	atttggatgt	1320
tttgggaaga	ccaatggttt	tagcaggaga	caaagctaag	caagtccaat	ggacaaatgt	1380
gtacctggat	gcattggaac	tgggacttgt	cattactgga	actcttcagg	tcttcaacat	1440
aaccggccaa	tttgaaaata	agacaaaact	aaagaaccag	ctgattcttg	gtgtgatggg	1500
agtagatgtg	tctttggaag	atattaaaag	actgacacca	cgttttacac	tgtgccccaa	1560
tgggtattac	tttgcaatcg	atcctaattg	ttatgtttta	ttacatccaa	atcttcagcc	1620
aaagaacccc	aaatctcagg	agccagtaac	attggatttc	cttgatgcag	agttagagaa	1680
tgatattaaa	gtggagattc	gaaataagat	gattgatggg	gaaagtggag	aaaaaacatt	1740
cagaactctg	gttaaattctc	aagatgagag	atatattgac	aaaggaaaca	ggacatacac	1800
atggacacct	gtcaatggca	cagattacag	tttggccttg	gtattaccaa	cctacagttt	1860
ttactatata	aaagccaaac	tagaagagac	aataactcag	gccagatcaa	aaaagggcaa	1920
aatgaaggat	tcggaacccc	tgaagccaga	taattttgaa	gaatctggct	atacatcat	1980
agcaaccaaga	gattactgca	atgacctgaa	aatatcggat	aataacactg	aattttctttt	2040
aaatttcaac	gagttttattg	atagaaaaac	tccaaacaac	ccatcatgta	acgcggattt	2100
gattaataga	gtcttgcttg	atgcaggcct	tacaaatgaa	cttgtccaaa	attactggag	2160
taagcagaaa	aatatcaagg	gagtgaagc	acgatttggt	gtgactgatg	gtgggattac	2220
cagagtttat	cccaaagagg	ctggagaaaa	ttggcaagaa	aaccagaga	catatgagga	2280
cagcttctat	aaaaggagcc	tagataatga	taactatggt	ttcactgctc	cctactttta	2340
caaaagtgga	cctggtgcct	atgaatcggg	cattatggta	agcaaagctg	tagaaatata	2400
tattcaaggg	aaacttctta	aacctgcagt	tgttggaatt	aaaattgatg	taaattcctg	2460
gatagagaat	ttcaccaaaa	cctcaatcag	agatccgtgt	gctggtccag	tttgtgactg	2520
caaaagaaac	agtgcgtaa	tggatttgtg	gattctggat	gatgggtggg	ttcttctgat	2580
ggcaaatcat	gatgattata	ctaatacagat	tggaagattt	tttgagagaga	ttgatccag	2640
cttgatgaga	cacctgggta	atatatcagt	ttatgctttt	aacaaatctt	atgattatca	2700
gtcagtatgt	gagcccggtg	ctgcaccaaa	acaaggagca	ggacatcgct	cagcatatgt	2760
gccatcagta	gcagacatat	tacaaattgg	ctggtgggcc	actgctgctg	cctggtctat	2820
tctacagcag	tttctcttga	gtttgacctt	tccacgactc	cttgaggcag	ttgagatgga	2880
ggatgatgac	ttcacggcct	ccctgtccaa	gcagagctgc	attactgaac	aaaccagta	2940
tttcttctgat	aacgacagta	aatcattcag	tgggtgtatta	gactgtggaa	actgttccag	3000
aatctttcat	ggagaaaagc	ttatgaacac	caacttaata	ttcataatgg	ttgagagcaa	3060
agggacatgt	ccatgtgaca	cacgactgct	catacaagcg	gagcagactt	ctgacgggcc	3120
aaatccttgt	gacatgggta	agcaacctag	ataccgaaaa	gggcctgatg	tctgctttga	3180
taacaatgtc	ttggaggatt	atactgactg	tgggtgggtg	tctggattaa	atccctccct	3240
gtggtatata	attggaatcc	agtttctact	actttggctg	gtatctggca	gcacacaccg	3300
gctgttatga	ccttctaaaa	accaaactctg	catagttaaa	ctccagaccc	tgccaaaaca	3360
tgagccctgc	cctcaattac	agtaacgtag	ggtcagctat	aaaatcagac	aaacattagc	3420
tgggcctgtt	ccatggcata	acactaaggc	gcagactcct	aaggcaccca	ctggctgcat	3480
gtcagggtgt	cagatcctta	aacgtgtgtg	aatgctgcat	catctatgtg	taacatcaaa	3540
gcaaaatcct	atacgtgtcc	tctattggaa	aatttgggag	tttgttggtg	cattgttggt	3600

<210> 18

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 18

ggggattgat cttcgatcgc g

<210> 19
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 19
ctgagatttg gggttctttg g 21

<210> 20
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 20
tcgccacat ggctgctggc tgcctgctg 29

<210> 21
<211> 52
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 21
tcggaattcc tcagtgatgg tgatggtgat gagaaacacc accacagtcg gt 52